

Online dirt count measurement

M-L Parkkinen describes ABB's pulp defect analyser

One of the most important quality factors in the production of high-quality pulp for the paper industry is dirt count, which describes the pulp's content of any foreign material. It is a standardized measurement value defined in ISO and TAPPI standards.

Knowing the dirt content of pulp, particularly of recycled pulp, is important for its suitability to make fine paper. Typical pulp defects include small dirt spots and shives.

Most pulp defects are very small, typically less than one square mm. Visual inspection is carried out in reflection or transmission illumination. It is traditionally based on cut out samples, which cover only a tiny fraction of the whole bale or its whole surface area.

When conducted by the principles presented in the standards for reflected light inspection, the requirements are at that every

tenth bale should be inspected with at least ten samples from each bales. Each inspected sample should cover at least a quarter of a square meter and should be inspected on both sides.

Manual inspection of such sample lots is labour consuming and error prone. Also, there can be variations in the results from one inspector to another.

An automated online inspection system based on high sensitivity digital camera technology and advanced machine vision tools inspects the whole length of a bale with consistent and repeatable results.

ABB has developed the Pulp Defect Analyzer to detect and report defects as small as 0.04 mm², the minimum defect size included in the standards. With the help of the applied machine vision technology the size of each defect can be determined with an accuracy of 0.01 mm².

The first Pulp Defect Analyzers



are working in the Södra Cell's Mörrum mill in Sweden.

More information from ABB Oy, Process Industry, Web

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